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ABSTRACT

A study examined mothers' accuracy in predicting the responses their children would give and the scores they would achieve on two standardized vocabulary tests. Specifically, the study's primary purpose was to examine maternal estimates of both expressive and receptive vocabulary skills according to two indices: accuracy of total score and accuracy of item by item report. A second purpose was to examine the extent to which birth-order, daycare, child age, and child language level are associated with parental predictions. The study sample included 48 mothers and their children, including 16 specific language-impaired preschoolers (mean age 52 months), 16 chronological age-matched normal children, and 16 younger language-age-matched normal children (mean age 39 months). Each child completed the Peabody Picture Vocabulary Test-Revised to measure receptive vocabulary and the Expressive One-Word Picture Vocabulary Test-Revised to measure expressive vocabulary. Mothers were asked to complete the vocabulary scales as they predicted their child would, and to complete the Vineland Adaptive Behavior Scales for their child. Results included the following: (1) first and only borns obtained significantly higher expressive vocabulary scores than second or later borns; (2) no sex effects were observed; (3) mothers of language-impaired children viewed their children's expressive and receptive vocabulary development as poorer than mothers of language-matched and age-matched controls; (4) mothers overestimated vocabulary development with the exception that maternal simulation scores in the specific-language impaired group for receptive vocabulary did not differ from actual child scores; (5) on a general level, mothers of specific-language impaired children faired more accurately in their simulations; (6) language-impaired children obtained lower ratings on the communication and socialization scales of the Vineland than other children; (7) when simulating performance, mothers of specific, language-impaired children may have been influenced by their appraisal of non-linguistic competencies--a negative halo effect; and (8) on an item by item basis, mothers of age-matched normals fared more accurately in their simulations than the other groups. (Contains 15 references.) (AC)

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MATERNAL SENSITIVITY TO VOCABULARY DEVELOPMENT IN SPECIFIC LANGUAGE-IMPAIRED AND LANGUAGE-NORMAL PRESCHOOLERS

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Abstract

This study examined mothers' accuracy in predicting the responses their children will give and the scores they will achieve on two standardized vocabulary tests. Sixteen mothers and their children (specific-language impaired preschoolers, age matched normal children, and younger normal children) completed the PPVT-R, EOWPVT-R and Vineland Adaptive Behavior Scales. Mothers in all groups overestimated their children's standardized receptive and expressive scores but mothers of age matched normals were best able to predict their children's responses to the individual items.

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Introduction

A substantial literature in the past twenty years has documented the nature of motherese. One hypothesis regarding motherese is that it represents an adaptation on the part of the adult speaker to facilitate comprehension and language development in the child (eg,. Bohannon & Hirsh-Pasek, 1984; Snow & Ferguson, 1977). For such adaptation to occur, parents need to be able to second-guess their children, predicting what expressions and terms in what contexts children are likely to understand (Berko-Gleason, Greif, Weintraub & Fardella, 1977). The ability of parents to estimate their child's language development has heightened significance for the delayed child whose parents may act as early detectors of the delay or as clinician collaborators when asked to complete child rating scales.

Previous research on parental estimates of child abilities has largely focused on global estimates of intellectual abilities (eg., Ewert & Green, 1957; Heriot & Schmickel, 1967; Schulman & Stern, 1959; Serbin, Steer & Lyons, 1983), or has examined the correlation between total scores the children obtain on tests and scores from rating scales and checklists completed by parents (eg., Chaffee, Cunningham, Secord-Gilbert, Elbard & Richards, 1990). Exceptions to this method of examining accuracy of parental report include Evans and Schmidt (1991), Gorelick and Sandhu (1967), and Sattler, Feldman and Bohannon (1985), who requested mothers to complete intelligence or language tests in the way they believed there child would respond.

The primary purpose of the present study was to examine maternal estimates of both expressive and receptive vocabulary skills according to two indices: accuracy of total score and accuracy of item by item report. A second purpose was to examine the extent to which birth order, day care, child age, and child language level are associated with parental predictions.

Method

Subjects. Sixteen mothers and their children (matched for birth order and sex) in each of three groups participated: specific language-impaired (LI) children (mean age 52 months), chronological age-matched (CA) normal children (mean age 52 months) and younger language-age-matched (LA) normal children (mean age 39 months). Ten of the L-I children exhibited expressive delays, and six both expressive and receptive delays. All had been diagnosed by a speech pathologist as language-impaired and had obtained scores within the normal range on the Leiter International Performance Scale (Leiter, 1948), a test of non-verbal test intelligence. Groups did not differ in the mean number of days in day care.

Procedure. Each child completed the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981), a measure of receptive vocabulary, and the Expressive One-Word Picture Vocabulary Test-Revised (Gardner, 1990), a measure

of expressive vocabulary. Mothers were asked to complete each of these as they expected their child would, and to complete the Vineland Adaptive Behavior Scales (Sparrow, Balla & Cicchetti, 1984) for their child.

For the vocabulary tests, five maternal estimate variables were derived: standard scores from mothers' simulations of their child's performance on the two tests, and hit rates for the accuracy with which mothers predicted the correctness of their child's responses to each item. The fifth variable was hit rate for predicting the word the child used to name each expressive item. Mothers also simulated a hypothetical four-year-old's performance on the PPVT-R and EOWPVT-R. MANOVA, univariate tests and correlational statistics were used to analyze the data.

Results

1. *First and only borns obtained significantly higher expressive vocabulary scores than second or later borns.* The same tendency was observed for receptive vocabulary scores. However birth-order effects were not observed for any of the five maternal estimate variables or on any of the subscales scores on the Vineland Adaptive Behavior Scale.

2. *No sex effects were observed.* This was true for all standard scores which the children obtained and all maternal estimate variables.

3. *Mothers of L-I children viewed their children's expressive and receptive vocabulary development as poorer than mothers of language matched and age matched controls.* Child standard scores for both tests, maternal simulation standard scores for both tests, and Communication and Socialization subscores on the Vineland Adaptive Behavior Scale were significantly lower for L-I children than other two groups.

4. *Mothers overestimated vocabulary development with the exception that maternal simulation scores in the L-I group for receptive vocabulary did not differ from actual child scores.* Otherwise, all group means of maternal simulation standard scores were significantly higher than child standard scores both for their own children and for a hypothetical four-year old for whom the mean would be 100. Maternal estimates for a hypothetical preschooler were especially out of line on the expressive vocabulary test--at least 1.5 standard deviations higher than the norm.

5. *On a general level, mothers of L-I children fared more accurately in their simulations.* L-I child standard scores were correlated .63 with maternal simulation standard scores for both tests. In contrast, this was true for only the expressive score for the language-age match group, and only the receptive score for the chronological age-match group.

6. *L-I children obtained lower ratings on the Communication and Socialization subscales of the Vineland.* Scores on the Motor and Daily Living subscales did not differ from the CA and LA matches.

7. *When simulating performance, mothers of L-I children may have been influenced by their appraisal of non-linguistic competencies--a negative halo effect.* For the L-I group, maternal simulation standard scores for expressive language were correlated with Motor Skills and Daily Living subscales of the Vineland, but actual child scores for all three groups were uncorrelated with these subscales. As would be expected, Actual child scores were correlated with the Communication subscale (LI and LA match groups) and Socialization subscales (CA match group) of the Vineland.

8. *On an item by item basis, mothers of CA matched children fared more accurately in their simulations than the other groups.* They were more accurate in predicting what words their child used to label pictures on the expressive test and in predicting the correctness of their child's responses on the receptive test than mothers of LI children. LI children frequently offered idiosyncratic labels which might be more difficult to predict.

Summary

These results demonstrate a number of points. Perhaps the most general is that, depending on the index used, different conclusions are reached regarding whether mothers of language-impaired children are more or less knowledgeable about their children's vocabulary development than mothers of normal children. If one considers their ability to predict the form of their child's response to items on expressive and receptive vocabulary tests, then mothers of normal four year-old are more accurate than mothers of children at a year younger language level, ie. langauge-impaired four-year-olds and language matched younger controls. This may reflect the usage of a more standard and conventional vocabulary by older children which is easier for mothers to predict. On the other hand, if overall test performance as reflected by the total scores is used, then mother of language-impaired children fare better than mother of same-age non-impaired children.

The aforementioned point, however, must be considered in light of other aspects of the data which suggest that mothers of LI children may be influenced by their perceptions of their children's competence in other non-linguistic domains when estimating their children's vocabulary development. In the present study, parental ratings of motor skill and daily living skills, which were uncorrelated with actual child scores, were highly positively correlated with maternal estimates of vocabulary development within the language-impaired group. Similarly, Chaffee et al. (1990) observed that parental estimates of expressive language skills were lower when parents regarded the child as more stressful. Such a negative halo effect would serve to moderate the tendency to overestimate and bring total scores more into line with the child's actual performance.

Despite which index is used, mothers in all three groups overestimated

both their own and a hypothetical normal child's test performance. This finding is consistent with previous research showing that parents overestimate children's level of intellectual functioning (Gorelick & Sandhu, 1967; Prout, Harper, Snider & Lindgren,1978; Miller, Manhal & Mee, 1989; Schulman & Stern, 1959) and language development (Evans, & Schmidt, 1991; Sattler et al. 1985). This tendency may in fact be to the child's benefit in encouraging the acquisition of new knowledge. What is of additional interest is that mothers of normal four year-olds, language-impaired four year olds, and younger normal three year-olds overestimated a hypothetical child's performance on an expressive vocabulary test to the extent that their simulated standard scores fell in the gifted range. Thus even mothers of normal children expect other children the same age as their own child to be even more articulate than their own in terms of expressive vocabulary.

Table 1. Actual Child and Maternal Simulated Scores for Own Child and Hypothetical Four-year Old

	EOWPVT-R		PPVT-R	
	M	SD	M	SD
Language-Impaired				
Actual Child	86.6	11.7	90.3	14.2
Guess: Child	99.6	21.0	92.8	28.8
Guess: 4 yr old	128.9	13.1	114.7	27.5
Language Age Match				
Actual Child	103.8	11.8	104.6	12.3
Guess: Child	122.0	21.5	113.4	14.1
Guess: 4 yr old	135.9	15.2	109.9	23.5
Chronological Age Match				
Actual Child	108.2	15.1	113.13	14.4
Guess: Child	129.6	18.8	126.4	20.5
Guess: 4 yr old	136.1	10.7	117.6	23.1

Table 2. Maternal Hit Rates for Language Tests

	EOWPVT-R				PPVT-R	
	Lexical Hit		Correctness Hit		Correctness Hit	
Group	M	SD	M	SD	M	SD
Language-Impaired	51.1	8.7	69.0	7.6	69.7	9.2
LA Match	52.4	9.1	68.1	8.3	68.3	8.1
CA Match	59.3	8.2	68.4	5.7	77.7	7.9

Table : Intercorrelations between Language Matched Children's Scores and Maternal Estimates for Language Tests and Vineland Scales

	1.	2.	3.	4.	5.	6.	7.
1. Child's EOWPVT-R Score	--						
2. Child's PPVT-R Score	.20	--					
3. Mother EOWPVT-R Estimate	.62*	.26	--				
4. Mother PPVT-R Estimate	.65**	.38	.59*	--			
5. Communication Scale	.61*	.11	.63**	.49	--		
6. Daily Living Skills Scale	.09	-.19	-.02	.26	.17	--	
7. Socialization Scale	.31	-.08	.13	.00	.56*	.43	--
8. Motor Scale	.39	.27	.13	.08	.22	-.07	.40

*p<.05 **p<.01

Table : Intercorrelations between Chronological Matched Children's Scores and Maternal Estimates for Language Tests and Vineland Scales

	1.	2.	3.	4.	5.	6.	7.
1. Child's EOWPVT-R Score	--						
2. Child's PPVT-R Score	.68**	--					
3. Mother EOWPVT-R Estimate	.24	.40	--				
4. Mother PPVT-R Estimate	.61*	.74**	.58*	--			
5. Communication Scale	.22	.33	.60*	.52*	--		
6. Daily Living Skills Scale	.30	.25	.47	.37	.85**	--	
7. Socialization Scale	.56*	.46	.40	.46	.67**	.74**	--
8. Motor Scale	-.10	-.32	.22	-.06	.41	.58*	.39

*p<.05 **p<.01

Table : Intercorrelations between Language Impaired Children's Scores and Maternal Estimates for Language Tests and Vineland Scales

	1.	2.	3.	4.	5.	6.	7.
1. Child's EOWPVT-R Score	--						
2. Child's PPVT-R Score	.39	--					
3. Mother EOWPVT-R Estimate	.64**	.65**	--				
4. Mother PPVT-R Estimate	.25	.51*	.63**	--			
5. Communication Scale	.50*	.43	.55*	.28	--		
6. Daily Living Skills Scale	.48	.43	.66**	.26	.75**	--	
7. Socialization Scale	.31	.40	.57*	.45	.42	.53*	--
8. Motor Scale	.20	.33	.57*	.44	.51*	.74**	.74**

*p<.05 **p<.01

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